

Myiasis in the Eastern Box Turtle Caused by *Phaenicia coeruleiviridis* (Diptera: Calliphoridae)¹

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ABSTRACT

Larvae of *Phaenicia coeruleiviridis* (Macquart) (Diptera: Calliphoridae) were discovered causing facultative wound myiasis in the eastern box turtle, *Terrapene carolina carolina* (L.) (Testudines: Emydidae), in Maryland. Eight larvae were recovered from a puncture wound in the turtle's body wall near the head. Adult flies emerged after a pupal period of 7 days. The turtle subsequently died.

Larvae of certain flies commonly infest wounds or traumatized tissues of man and animals. Often the larvae confine their feeding or scavenging to necrotic tissues at the site of a wound or some other lesion on the skin. Occasionally these secondary larval invaders continue to burrow beneath the dead flesh into healthy tissues or organs, resulting in serious injury or even death to the host. Such an infestation generally is termed facultative myiasis.

This paper reports a case of facultative wound myiasis caused by larvae of *Phaenicia coeruleiviridis* (Macquart) (Diptera: Calliphoridae) in the eastern box turtle, *Terrapene carolina carolina* (L.) (Testudines: Emydidae). Eight mature, third-instar larvae of *P. coeruleiviridis* were obtained from a suppurating wound in a turtle collected 2 September 1976 in Millersville, Maryland.

The infected turtle was about 10 cm long and 7.5 cm wide. It appeared lethargic and weak; the front hinge of the plastron could be pried open with an index finger. The turtle had suffered a puncture wound

in the body wall dorsolaterad to the head and ventrad to the carapace. The opening formed by the wound was about 6 mm in diameter and over 20 mm deep, extending well into the body cavity. The wound was festered and was oozing a malodorous brown fluid. Several dipterous larvae were observed crawling in the wound cavity and making their way to the opening where they extruded their posterior spiracles in order to obtain oxygen. The turtle was transported to the laboratory and placed in a cage for observation.

Four larvae were plucked from the opening with forceps as they surfaced for air. These specimens were killed and preserved. On 3 September, two additional larvae were removed and placed in sand at room temperature so that they would pupate. A seventh larva was found crawling across the floor of the cage on 4 September; it was collected and placed in a separate jar of sand. On 5 September, an eighth and final larva was pulled from the wound and set up in another jar of sand. While probing with forceps, small pieces of loose, flat, calcified tissue also were removed from the turtle's body cavity.

None of the four larvae in sand had pupated by 8 September so they were placed in an environmental chamber at 13°C. The larvae pupated on 10 September.

¹ The opinions or assertions contained herein are the private views of the author and are not to be construed as reflecting the views of the Department of the Army or the Department of Defense.

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ber. The pupae were set up in separate, stoppered vials and retained at room temperature. Adults emerged from two of the puparia on 17 September after a pupal period of 7 days; the other pupae failed to produce adults.

The flies were identified by R. J. Gagné, Systematic Entomology Laboratory, U. S. Department of Agriculture, Washington, D. C., as *P. coeruleiviridis*. This species is common in woods and fields where it has been collected upon human excrement and decaying meats (Hall, 1948). *Phaenicia coeruleiviridis* also has been reared from nests of starlings (McAtee, 1929), and females were observed ovipositing upon the fur of a thin and emaciated kitten by Davis (1928). The animal was weak and ill but supposedly was not wounded.

The present paper is the first apparent report of larvae of *P. coeruleiviridis* causing myiasis in a vertebrate and the first recorded association between calliphorids and turtles. *Cistudinomyia cistudinis* (Aldrich), a sarcophagid fly, has been bred from sores in box turtles (Aldrich, 1916; Knipling, 1937), but this species is apparently an obligate parasite,

not a facultative producer of myiasis as *P. coeruleiviridis*.

The turtle's wound remained fetid and suppurative even after the last calliphorid larva had been removed. The turtle continued to be very weak and inactive. It never drank or ate while in the laboratory, and seldom moved about the cage. It died on 30 September, 28 days after capture, probably as a result of the fly infestation.

All specimens of *P. coeruleiviridis* were deposited in the U. S. National Museum.

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